

ABSTRACT

A length measuring instrument capable of measuring, displaying and recording the length around a part being measured by applying a measuring belt tightly to that part and operating the instrument by single hand. A rotary shaft (20) disposed in a housing (10) is provided with a spiral spring (40), the measuring belt (30), and an optical modulating section (100) having a part (104) for regulating the quantity of transmitted light. The belt is drawn out and applied tightly to the circumference of the part being measured. The rotary shaft is rotated forward when the belt is drawn out and rotated reversely by the recovering force of the spring to pull in the belt automatically thus, stretching and tensioning the belt. The light is converted into an optical modulation signal L depending on the rotation of optical modulating section and that signal is converted temporarily into a photoelectric conversion signal before being converted into an electric signal. The pulse generation pattern is judged at the forward/reverse rotation judging section (238) of 2a CPU (230), addition and subtraction counting is performed at the pulse counting section (236) in response to the judgment results, and the value of a length corresponding to the final count is read out from a storage device (222) and displayed at a display section (226).